Journal of Forensic and Legal Medicine 18 (2011) 139–140

Contents lists available at ScienceDirect

Journal of Forensic and Legal Medicine

journal homepage: www.elsevier.com/locate/jflm

Case report

Fatal non-traumatic spontaneous hemoperitoneum in second trimester of pregnancy – Autopsy findings

Piyush Kapila Assistant Professor, Dr. *

Department of Forensic Medicine, Indira Gandhi Medical College, Shimla, Himachal Pradesh 171001, India

ARTICLE INFO

Article history:
Received 25 July 2010
Received in revised form
15 December 2010
Accepted 14 January 2011
Available online 5 February 2011

Keywords:
Spontaneous hemoperitoneum
Pregnancy
Rupture
Uterine artery

ABSTRACT

Spontaneous hemoperitoneum in second trimester of pregnancy is a very rare but lethal condition which demands prompt diagnosis and management for the survival of both mother and fetus. A 21-year old primigravida woman was presented at 29 weeks of pregnancy with acute abdominal pain and hypovolumic shock. In a District Hospital patient was managed conservatively and referred but was brought dead at tertiary level hospital. On autopsy gross hemoperitoneum was found without any injury and uterine artery found ruptured against the suspicion of brutal beating by the relatives of husband.

1. Introduction

Pregnancy itself being hyper dynamic state is vulnerable to the hemorrhagic insult, which endangers both mother and fetus. There are various reasons for the hemoperitoneum in pregnancy including ectopic pregnancy, trauma to abdomen, abruptio placenta and rupture of various abdominal organs mainly spleen, uterus, endometrial implants or blood vessels in the abdomen. Placental abruption is the first diagnosis which comes to the mind of an obstetrician, as abdominal pain, tenderness and rigidity of abdomen shock, are the major presenting complaints. Without loosing time volume replacement and immediate surgical intervention provides best prognosis. Here is a case of atypical presentation of spontaneous hemoperitoneum and death due to rupture of uterine artery at the commencement.

2. Case report

A 21-year old, primigravida, housewife presented with 29 weeks pregnancy and acute pain in abdomen for few hours without any history of trauma at District Hospital. She had antenatal check-up two days prior to the onset of symptoms. On examination, she was reported to be severely anemic, blood pressure was 90/50 mm of Hg, pulse rate was 106/min. Abdomen was found tender and height of uterus was 30 cm, FHS could not be well elicited due to tenderness and rigidity of abdomen. She was put on intravenous fluids and referred to next referral center at district hospital, unfortunately the obstetrician or the surgeon was not available and after giving a blood transfusion at District Hospital patient was referred to the tertiary level health care center, at State Hospital for maternal and child health care of Indira Gandhi Medical College, Shimla and here she was received dead on arrival. Autopsy was sought by police on the suspicion that the young woman might have been subjected to cruelty by the relatives of the husbands for dowry or otherwise. On opening the abdomen there was large amount of free blood within the peritoneal cavity which was simulating a ruptured uterus. During removal of huge amount of blood from the peritoneal cavity uterus was thoroughly palpated to exclude any ruptured site. Uterus was found intact, was opened and a dead, male fetus, weighing 1100 g was taken out. All other abdominal and pelvic organs were inspected to find out the source of bleeding. During thorough examination multiple tortuous engorged superficial vessels were found on the posterior surface of the lower segment of the uterus and after tracing the blood vessels from uterus toward aorta uterine artery near the commencement was having a 4-mm long rent. No other injury was found in or around the uterine cavity.

3. Discussion

Spontaneous hemoperitoneum during 2nd or 3rd trimester of pregnancy is very rare. Choobun T et al. reported two cases where

* Tel.: +91 9418010066.
E-mail address: piyush.kapila@gmail.com.

1752-928X/$ – see front matter © 2011 Elsevier Ltd and Faculty of Forensic and Legal Medicine. All rights reserved.
doi:10.1016/j.jflm.2011.01.012

intra-abdominal bleeding was due to rupture of ovarian venous plexus during the 2nd & 3rd trimester of pregnancy.[1] One case had repeated bleeding at 24 & 31 weeks of pregnancy. Emergency exploratory laparotomy and suture ligation were done in both the cases, with LSCS (Lower Section Caesarean Section) in other case. Primary diagnosis of ruptured utero-ovarian vessel is rare. The pre-operative diagnosis is usually placental abruption in a significant number of cases (26%).[2] In literature utero-ovarian vessel rupture has been reported to be usual in 3rd trimester,[3] but has been shown to occur in all trimesters and puerperium as well.[4] The uterine arterio-venous malformation is a rare condition and the spontaneous rupture of this was reported by Simpson et al. as a cause of an acute abdomen in late pregnancy.[5] An atypical case of sub acute uterine artery rupture was reported in a 28 years old nulliparous lady with sickle cell anemia at 27 weeks pregnancy by Fiori O et al. which was successfully treated by selective suture after laparotomy.[6] Aziz U et al. reported a case of hemoperitoneum at 20 weeks of gestation resulting from spontaneous rupture of left uterine vessels associated with decidualized endometriosis.[7] Spontaneous rupture of uterine artery in 3rd trimester of pregnancy without any associated pathology also was reported by Swaegers MC et al.[8] A case of spontaneous hemoperitoneum was also reported occurring 4 h after vaginal delivery, where bleeding was due to avulsion of a fibrous band between the right fallopian tube and uterus.[9] Idiopathic spontaneous hemoperitoneum was also described by Arie Koifman et al. where origin of the hemorrhage remained obscure even after thorough exploration.[10] An almost similar to the present one another case was reported by Wu CY et al. where source of bleeding was a ruptured superficial vein located on the posterior surface of the uterus.[11] That patient was a 31-year old nullipara, presented at 32 weeks while she was on tocolytic drugs. The clinical features led to an impression of abruptio placenta and emergency cesarean section was performed, internal bleeding was about 3 L. After thorough exploration the bleeder was identified and sutured. Maternal and fetal outcome was good. Another case of spontaneous rupture of uterine surface varicose veins was reported by Hashimoto K et al. where hysterectomy was required due to difficulty in hemostasis of multiple bleeding vessels on the posterior surface of the uterus.[12] Pathogenesis of spontaneous hemoperitoneum is obscure. Physiological increase in blood flow to the utero-ovarian vessels may cause dilatation of these plexuses and predispose to spontaneous rupture. The sudden increase in intravenous pressure associated with increased intra-abdominal pressure can also cause rupture.[3,7] Principle of management includes immediate resuscitation and exploratory laparotomy. If the uterus is found too large to manipulate, prompt caesarean section should be done, so that the bleeding site can easily be found. If no pelvic pathology is found, other important vulnerable vessels like splenic, hepatic, renal or any aneurismal vessel should be inspected.

4. Conclusion

Although very rare, obstetricians should be aware of this cause of acute abdominal pain and hypovolumic shock in pregnancy. Close observation, prompt diagnosis, and proper intervention are the keys to patient survival. The use of sophisticated techniques of anesthesia and volume replacement as well as modern advanced neonatal care has tremendous role in improvement of maternal and fetal outcome. There is an important field of study to find out prevalence and pathogenesis of this life threatening condition. Similarly an autopsy surgeon should also be aware of the rare causes as to reach the real cause of the spontaneous hemoperitoneum as sometimes in nulliparous newly wed patients it may be taken as a dowry death or abetment to suicide in many cases.

Conflict of interest statement

It is certified that the author does not have any actual or potential conflict of interest including employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding including personal or other relationships with other people or organizations within three (3) years of beginning the work submitted that could inappropriately influence (bias) this work.

References

1. Choobun T, Pinjaroen S, Getpook C. Spontaneous intra-abdominal bleeding during pregnancy. *J Med Assoc Thai* 2006;**87**(7):1044–6.
2. Ginsburg KA, Valdes C, Schnider G. Spontaneous utero-ovarian vessel rupture during pregnancy: three case reports and a review of the literature. *Obstet Gynecol* 1987;**69**:474–6.
3. Foley MR, Sonek JD, Lavender LM, Zuspal FP. Spontaneous rupture of utero-ovarian veins in pregnancy: two case reports. *Am J Obstet Gynecol* 1987 April;**156**(4):962–4.
4. Ziereisen V, Bellens B, Gérard C, Baeyens L. Spontaneous rupture of utero-ovarian vessels in postpartal period: a case report and review of the literature. *J Gynecol Obstet Biol Reprod (Paris)* 2003 Feb;**32**(1):51–4.
5. Simpson I, Ng A, Griffin C. A rare cause of an acute abdomen in late pregnancy. *Aust NZ J Obstet Gynecol* 1995;**35**(4):435–6.
6. Fiori O, Prugnolles H, Darai E, Uzan S, Berkane N. Spontaneous uterine artery rupture during pregnancy in a woman with sickle cell disease: a case report. *J Reprod Med* 2007;**52**(7):657–8.
7. Aziz U, Kulkarni A, Lazic D, Cullimore JE. Spontaneous rupture of the uterine vessels in pregnancy. *Obstet Gynecol* 2004;**103**:1089–91.
8. Swaegers MC, Hauspy JJ, Buytaert PM, De Maeseneer MG. Spontaneous rupture of the uterine artery in pregnancy. *Eur J Obstet Gynecol Reprod Biol* 1997;**75**:145–6.
9. Fu HC, Ko SF, Ou CY, Hsu TY. Postpartum hemoperitoneum due to avulsion of pelvic adhesion band. *South Med J* 2006 Nov;**99**(11):1300–1.
10. Koifman A, Weintraub AY, Segal D. Idiopathic spontaneous hemoperitoneum during pregnancy. *Arch Gynecol Obstetrics* 2006;**276**(3):269–70. Epub 2006 Dec 31.
11. Wu CY, Hwang JL, Lin YH, Hsieh BC, Seow KM, Huang LW. Spontaneous hemoperitoneum in pregnancy from a ruptured superficial uterine vessel. *Taiwan J Obstet Gynecol* 2007;**46**(1):77–80.
12. Hashimoto K, Tabata C, Ueno Y, Fukuda H. Spontaneous rupture of uterine surface varicose veins in pregnancy: a case report. *J Reprod Med* 2006;**51**:722–4.